

**Routine laboratory tests in adult trauma—are they necessary?**

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**Introduction:** Minor trauma is responsible for a significant degree of morbidity and accounts for hundreds of lost working days and productivity. The majority of patients have few co-existent medical problems and yet, in most UK hospitals they still undergo routine blood testing on admission. This has a significant financial impact on the National Health Service. The purpose of this study was to determine the cost and utility of preoperative screening blood tests in patients requiring bloodless field orthopaedic surgery.

**Methods:** A retrospective analysis of 100 consecutive trauma admissions over a 1-year period with injuries to the hand, wrist, forearm and ankle were assessed. All injuries in which surgery under tourniquet control was required were included. Admission blood tests were assessed for abnormality frequency, injury correlation, influence on management and outcome. Inclusion criteria: patients aged 16–60 and American Society of Anaesthetists (ASA) class I or II. Patients with manifest infections and open fractures were excluded.

**Results:** The mean age was 35, (range 17–58), 55 males and 45 females. Surgical procedures included: 55 ORIF, 30 MUA, and 15 K-wire insertion. A total of 622 tests were ordered, with 53 (8.5%) being abnormal. Abnormalities identified included: FBC/WBC/Platelets (6%, 31%, 3%), Na<sup>+</sup>/K<sup>+</sup> (3%, 1%), Urea /Creatinine (8%, 10%), PT/PTT (8%, 8%), ALT/ALP (5%, 5%), and Glucose (19%) respectively. No abnormal test was clinically significant. Three patients had postoperative wound infections and two patients had changes in clinical management. The positive predictive value of complications was zero percent. Thirty patients had no preoperative blood tests ordered, with no peri or postoperative complications resulting. There was no significant difference between patients stratified for ASA grade ( $p = 0.45$ ). The mean cost per patient tested was £43 and the total hospital expenditure was £3141.

**Conclusion:** Trauma patients admitted for minor orthopaedic procedures do not require routine blood testing. These are of no value in the management of trauma patients and incur a significant and unnecessary cost. It is our recommendation that they are not routinely performed.

doi:[10.1016/j.injury.2010.07.481](https://doi.org/10.1016/j.injury.2010.07.481)**2A.7****Re-operation for tendon adhesions following open reduction and internal fixation of metacarpal fractures**

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**Aim:** The aim of this study is to identify rates of re-operation for stiffness following open reduction and internal fixation of metacarpal fractures.

**Materials and methods:** All patients undergoing open reduction and internal fixation of metacarpal fractures from October 2007 to March 2008 at our centre were studied. The end point for the series was chosen to ensure adequate final follow-up of at least 6 months. All metacarpals fixed using AO/Synthes compact hand plates or lag screws were studied. Excluded from the study were complex hand injuries with fractures associated with significant soft tissue injury

up record. The specific complications of stiffness, scar tenderness, infection and re-operation for any reason were documented.

**Results:** Forty-nine patients met the inclusion criteria for this study and 48 metacarpals in forty-one patients were available for the final analysis. Eight (20%) patients had a re-operation for removal of metalwork and tenolysis. The metalwork was removed within 4–6 months of the fixation. There were no episodes of infection. One patient developed CRPS and one had paraesthesia in the distribution of the dorsal branch of the ulna nerve. Hypersensitive scars were reported in three patients.

**Conclusion:** This study identified high rates of tenolysis and removal of metalwork following open reduction and internal fixation of metacarpal fractures. Informed consent should highlight these high rates of re-operation when patients undergo internal fixation of functionally displaced metacarpal fractures.

doi:[10.1016/j.injury.2010.07.482](https://doi.org/10.1016/j.injury.2010.07.482)**2A.8****Retrospective review of primary total elbow replacement (TER) for osteoporotic fractures of distal humerus in the elderly over 10-year period**

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**Introduction:** Primary total elbow replacement (TER) is gaining popularity as a primary treatment option for osteoporotic fractures of the elbow, particularly in patients with low demand. The aim of this study was to assess the clinical and functional efficacy of TER as a primary treatment for comminuted distal humerus fractures in the elderly.

**Methods:** We retrospectively reviewed 23 patients (22 females and 1 male) who were treated with primary total elbow replacement for complex, intra-articular fractures of the distal humerus in the elderly between March 2000 and January 2010. The average age of the patients was 75 years (ranging from 66 to 94 years). Postoperative elbow function was assessed using the Mayo Elbow Performance Score. The radiological assessment was performed using antero-posterior and lateral radiographs done at follow-up appointments.

**Results:** The average duration of follow up was 6 years. Overall, the mean Mayo elbow performance score was 93 points out of 100. The arc of flexion averaged at 94.3°. One patient developed blisters at her arm postoperatively but resolved with dressings. Two patients (8.6%) had mild pain at 2 years post-surgery but there was no evidence of implant loosening or evidence of infection. One patient developed superficial infection which was treated with antibiotics. Nineteen (82%) of the 23 elbows had neither a complication nor further surgery from the time of TER to the recent follow up.

**Conclusions:** Our review suggests that total elbow replacement as a primary treatment for comminuted distal humerus fractures in the elderly can give good to excellent results both in the short and the long term basis. When osteosynthesis is not a feasible option, especially in older patients who place lower demands on the joint, total elbow replacement can be considered a the primary treatment.

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